NOVEMBER/DECEMBER 2024

BEL32/CEL32 — ANALOG ELECTRONICS

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is a multistage amplifier?
2. What is meant by power?
3. What is noise?
4. What is bandwidth?
5. Define CMRR.
6. What is slew rate?
7. Draw a comparator using OP-AMP.
8. What is the use of hold circuit?
9. What are the essential components of oscillator?
10. State the condition for oscillation.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

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11. (a) Explain push-pull configurations.

Or

(b) Explain the role of emitter follower.

12. (a) Explain the input and output resistance in the case of various types of feedback.

Or

(b) Explain the effect of negative feedback on gain of an amplifier.

13. (a) Derive an expression for differential gain.

Or

(b) Explain the role of offset parameters.

14. (a) Explain the action of inverting and non-inverting modes of OP-AMP.

Or

(b) Explain the action of adder using OP-AMP.

15. (a) Explain the feedback requirement of oscillations.

Or

(b) Explain the action of Hartley oscillator.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the working of Class A and Class B power amplifiers.

17. Explain the analysis of input and output resistance in the case of various types of feedback.

18. Explain the ideal characteristics of OP-Amp.

19. Discuss the working of triangular waveform generators.

20. Describe the action of Phase shift oscillator.

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